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TERMINAL ISLAND
TREATMENT PLANT
445 Ferry Street
San Pedro, CA 90731
(310) 548-7520
FAX: (310) 548-7488

January 30, 1997

Ms. Lauren Fondahl, Biosolids Coordinator
U.S. EPA - Region IX (W-5-2)
75 Hawthorne Street
San Francisco, CA 94105

Dear Ms. Fondahl:

CITY OF LOS ANGELES' TERMINAL ISLAND WASTEWATER TREATMENT PLANT
1996 BIOSOLIDS ANNUAL REPORT

On behalf of the City of Los Angeles, Bureau of Sanitation, I am sending the enclosed 1996 Biosolids Annual Report for Terminal Island Wastewater Treatment Plant. This satisfies the generator reporting requirements in accordance with the U.S. EPA 40 CFR Part 503 Sewage Sludge Regulations.

If you have any questions, please contact Y.J. Shao of my staff at (310) 548-7520.

Sincerely

Clarence C. Mansell Jr.

Clarence C. Mansell Jr., Plant Manager
Terminal Island Treatment Plant

Enclosure

CCM/PW/cmo

1996 ANNUAL REPORT
FOR
THE CITY OF LOS ANGELES TERMINAL ISLAND
WASTEWATER TREATMENT PLANT
IN COMPLIANCE WITH USEPA 40 CFR PART 503 SEWAGE SLUDGE REGULATIONS REPORTING REQUIREMENT

SUBMITTED TO

Lauren Fondahl, Biosolids Coordinator
U.S. Environmental Protection Agency
Region 9

February 1997

PROGRAM STAFF

Bureau of Sanitation
Clarence C. Mansell Jr., Plant Manager III
Y.J. Shao, Plant Manager I

PREPARED BY

Bureau of Sanitation
Department of Public Works
City of Los Angeles

TABLE OF CONTENTS

SECTION 1

BACKGROUND INFORMATION

The City of Los Angeles, Department of Public Works, Bureau of Sanitation operates four wastewater facilities (Hyperion and Terminal Island Treatment Plants and Donald C. Tillman and Los Angeles Glendale Water Reclamination Plants) within a 600 square mile service area that includes four million people and 29 contracting cities and agencies. The Hyperion Treatment Plant (HTP) receives and processes flow from its service area and from the two water reclamation plants while the Terminal Island Treatment Plant (TITP) processes flow from its independent service area. Together, the four facilities process an average of 440 million gallons per day of wastewater and produce 210 dry metric tons per day of biosolids. All of the biosolids are beneficially used.

Thus, the City of Los Angeles must comply with the standards of the United States Environmental Protection Agency (USEPA) 40CFR Part 503 Sewage Sludge Regulations. The following are the reports requirements:

Preparer to Others:

General Information was provided to land applier as stated in Section 503.12(d), (f) and (g).

Preparer to USEPA Region 9:

The Terminal Island Treatment Plant is required to report the information in Section 503.18 for preparer of biosolids. The information includes the submittal of information in section 503.17(a)(5)(i)(A) through (D) from January 1996 through December 1996.

Beneficial Uses of Biosolids

2,712 dry metric tons of biosolids generated from January 1996 through December 1996 were 100% beneficially used for land application.

Facility information for Preparer and land applier is provided in Appendix A.

SECTION 2

PREPARER (distributed to land appliers)

Section 503.12 (d) (f) and (g) (general requirements) states that the preparer shall provide information to the applier/composter to allow the applier/composter (deriver) to comply with the requirements.

Section 503.18 (reporting) requires the following information in Section 503.17 (a)(5)(i)(A) through (D) for Terminal Island from January 1996 through December 1996 to be submitted to the permitting authority on February 19, 1997.

Information Provided to others [503.12 (d), (f) and (g)]

All the information under Section 503.17 (a)(5)(i)(A) to (D) for the Terminal Island biosolids was provided to land applier Biogro System. Other information was supplied as requested.

Pollutant Concentrations [503.17 (a)(5)(i)(A)]

Section 503.16 (frequency of monitoring) requires TITP to monitor pollutant concentrations in biosolids on a bimonthly basis. However, TITP biosolids are analyzed monthly for all ten metals and biweekly for cadmium copper, lead, nickel and zinc.

The results are summarized as follows:

- All TITP metals concentrations were below Table 1 ceiling concentration limits of Section 503.13.

- All TITP metals concentrations remained below Table 3 of Section 503.13.

Refer to Appendix B for the detailed, analytical test results and methods for TITP pollutant concentrations.

The biosolids samples are prepared by the appropriate digestion and extraction procedures described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, 3rd edition, U.S. EPA, 1986 with Revisions up to 1992.

Certification Statement, Pathogen Reduction (PR) and Vector Attraction Reduction (VAR) [503.17 (a)(5)(i)(B) to (D)]

Refer to Appendix C for the certification statements containing descriptions of PR and VAR for TITP biosolids.

All TITP material complied with Class B requirements for PR and VAR.

APPENDIX A

Facility Information for Preparer and Land Appliers

BIOSOLIDS PREPARER FACILITY INFORMATION

TERMINAL ISLAND TREATMENT PLANT - PREPARER OF BIOSOLIDS:

City of Los Angeles
Department of Public Works
Bureau of Sanitation
Terminal Island Treatment Plant

Clarence C. Mansell, Jr., Plant Manager III
445 Ferry Street
San Pedro, CA 90731

BIOSOLIDS LAND APPLIER FACILITY INFORMATION

Biogro System
19600 Fairchild Road, Suite 120
Irvine, CA 92715

Mark Taylor, General Manager
Telephone: (800)285-2479
FAX: (714)476-8614

APPENDIX B

Terminal Island Treatment Plant'
Analytical Test Results of Metals Concentrations for Preparer

Table 5. BENEFICIAL USE ASSESSMENT OF BIOSOLIDS AT TERMINAL ISLAND TREATMENT PLANT
12 Month Trend

The concentrations are in mg/kg of dry weight

Mo/Yr	pH	%TS	As	Cd	Cr	Cu	Mo	Pb	Hg	Ni	Se	Zn
###			3050# 7061##	3050# 6010##	3050# 6010##	3050# 6010##	3050# 6010##	3050# 6010##	7471# 7471##	3050# 6010##	3050# 7740##	3050# 6010##
Dec96(2)		24.0		5.38		342		78		37.9		950
Dec96(1)	8.6	24.0	20.0	5.63	48	346	22.5	75	2.42	38.8	76.3	925
Nov96(2)		23.8		5.29		307		64		41.6		744
Nov96(1)	8.2	25.4	10.8	4.84	49	260	23.5	72	2.95	38.6	79.5	933
Oct96(2)		25.0		4.84		304		70		36.4		840
Oct96(1)	8.3	24.1	12.9	4.61	40	315	23.3	66	2.45	32.3	75.1	846
Sep96(2)		26.0		4.42		354		89		41.8		927
Sep96(1)	8.0	23.5	15.4	5.36	45	374	26.7	84	2.64	36.0	64.7	979
Aug96(2)		22.8		6.05		566		89		39.5		1070
Aug96(1)	7.2	16.9	10.0	8.82	58	414	26.0	90	4.02	37.3	68.9	1112
Jul96(2)		17.4		5.69		391		87		38.2		1115
Jul96(1)	8.5	14.8	16.1	5.07	58	405	25.3	92	8.58	32.4	98.0	1142
Jun96(2)		22.4		5.98		404		98		44.6		1045
Jun96(1)	7.9	15.8	14.7	4.68	59	405	27.0	89	5.44	40.5	56.0	956
May96(2)		15.9		4.65		404		81		43.3		855
May96(1)	8.4	14.4	19.9	4.24	59	394	27.8	114	2.29	43.3	62.2	813
Apr96(2)		15.3		4.05		359		69		36.6		732
Apr96(1)	8.2	19.4	9.8	2.99	36	289	20.3	64	2.57	30.9	54.1	593
Mar96(2)		22.7		4.41		361		78		38.8		767
Mar96(1)	8.1	15.6	13.7	6.41	67	481	33.7	116	4.30	52.0	81.0	1084
Feb96(2)		13.4		4.33		366		78		37.3		791
Feb96(1)	8.1	15.8	9.3	4.38	44	356	27.6	75	2.98	36.8	65.1	806
Jan96(2)		14.6		4.86		370		82		38.2		815
Jan96(1)	6.0	14.6	13.0	4.52	45	377	27.4	87	2.40	40.1	61.3	788
AVG	7.9	19.5	13.8	5.06	51	373	25.9	83	3.59	38.9	70.2	901
MAX	8.6	26.0	20.0	8.82	67	566	33.7	116	8.58	52.0	98.0	1142
MIN	6.0	13.4	9.3	2.99	36	260	20.3	64	2.29	30.9	54.1	593
Ceiling Conc.*			75	85	***	4300	75	840	57	420	100	7500
Pollutant Conc**			41	39	***	1500	****	300	17	420	100	2800

→ Oil refineries

#,## Sample preparation and analytical methods, respectively, are adopted from EPA SW-846, 3rd Edition, 1986
1 and 2 in parenthesis refer to the first and second biweekly samples, respectively.
* Ceiling Concentrations in Table 1 of EPA Part 503 sludge regulation.
** Pollutant Concentration in Table 3 of EPA Part 503 sludge regulation.
*** Limit was deleted accvording to Federal Register vol. 60, No. 206 of Oct. 25, 1995.
**** Pending for EPA's reconsideration.

Dec96(1)	24.0	20.0	5.63	48	346	22.5	75	2.42	38.8	76.3	925
Dec96(2)	24.0		5.38		342		78		37.9		950
Avg	24.0	20.0	5.50	48	344	22.5	76	2.42	38.3	76.3	938

APPENDIX C

Terminal Island Treatment Plant
Pathogen and Vector Attraction Reduction Description and Certification Statements

CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BIOSOLIDS CERTIFICATION STATEMENT
FOR MEETING PATHOGENS AND VECTOR
ATTRACTION REDUCTION REQUIREMENTS
JANUARY AND FEBRUARY 1996

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a) (5) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

Sludge undergoes anaerobic mesophilic digestion with a mean cell residence time greater than 15 days and temperature at 35 to 55 degrees Celsius.

503.17 (a) (5) (i) (D) - A description of how the vector attraction reduction requirements in 503.33 (b) (1) are met.

Sludge undergoes anaerobic, mesophilic digestion. The mass of volatile solids in the sewage sludge are reduced by greater than 38 percent.

503.17 (a) (5) (i) (B) - Certification Statement for meeting Pathogens and Vector Attraction Reduction Requirements.

I certify, under penalty of law, that the pathogen requirements in 503.32 (b) (3) and the vector attraction reduction requirements in 503.33 (b) (1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BY: Clarence C. Mansell Jr. 3-8-96

CLARENCE C. MANSELL, JR. DATE
Plant Manager

030596dj A:\01&0296.CW1

CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BIOSOLIDS CERTIFICATION STATEMENT FOR MEETING PATHOGENS AND VECTOR ATTRACTION REDUCTION REQUIREMENTS MARCH AND APRIL 1996

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a) (5) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

Sludge undergoes anaerobic mesophilic digestion with a mean cell residence time greater than 15 days and temperature at 35 to 55 degrees Celsius.

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I certify, under penalty of law, that the pathogen requirements in 503.32 (b) (3) and the vector attraction reduction requirements in 503.33 (b) (1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BY: Clarence C Mansell Jr. 5-7-96

CLARENCE C. MANSELL, JR. DATE

050696JC A:03&0496.CW1

CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BIOSOLIDS CERTIFICATION STATEMENT FOR MEETING PATHOGENS AND VECTOR ATTRACTION REDUCTION REQUIREMENTS MAY AND JUNE 1996

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a) (5) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

Sludge undergoes anaerobic mesophilic digestion with a mean cell residence time greater than 15 days and temperature at 35 to 55 degrees Celsius.

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Sludge undergoes anaerobic, mesophilic digestion. The mass of volatile solids in the sewage sludge are reduced by greater than 38 percent.

503.17 (a) (5) (i) (B) - Certification Statement for meeting Pathogens and Vector Attraction Reduction Requirements.

I certify, under penalty of law, that the pathogen requirements in 503.32 (b) (3) and the vector attraction reduction requirements in 503.33 (b) (1) have been met. This determination has been made under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate the information used to determine that the pathogen and vector attraction reduction requirements have been met. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment.

FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BY: _____ for C.M. _____ July 10, 96

CLARENCE C. MANSELL, JR. DATE

070596JC A:05&0696.CW1

CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BIOSOLIDS CERTIFICATION STATEMENT
FOR MEETING PATHOGENS AND VECTOR
ATTRACTION REDUCTION REQUIREMENTS
JULY AND AUGUST 1996

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations.

503.17 (a) (5) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

Sludge undergoes anaerobic mesophilic digestion with a mean cell residence time greater than 15 days and temperature at 35 to 55 degrees Celsius.

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FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BY: Clarence C. Mansell Jr. 9-5-96

CLARENCE C. MANSELL, JR. DATE

090596DJ A:07&0896.CW1

CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BIOSOLIDS CERTIFICATION STATEMENT FOR MEETING PATHOGENS AND VECTOR ATTRACTION REDUCTION REQUIREMENTS SEPTEMBER AND OCTOBER 1996

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations:

503.17 (a) (5) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

Sludge undergoes anaerobic mesophilic digestion with a mean cell residence time greater than 15 days and temperature at 35 to 55 degrees Celsius.

503.17 (a) (5) (i) (D) - A description of how the vector attraction reduction requirements in 503.33 (b) (1) are met.

Sludge undergoes anaerobic, mesophilic digestion. The mass of volatile solids in the sewage sludge are reduced by greater than 38 percent.

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FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BY: Clarence C. Mansell Jr. 11-7-96

CLARENCE C. MANSELL, JR. DATE

090596DJ A:110696.CW1

CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BIOSOLIDS CERTIFICATION STATEMENT FOR MEETING PATHOGENS AND VECTOR ATTRACTION REDUCTION REQUIREMENTS NOVEMBER AND DECEMBER 1996

The following pathogens and vector attraction reduction requirements information has been prepared in accordance with the USEPA 40CFR Part 503 Sewage Sludge Regulations:

503.17 (a) (5) (i) (C) - A description of how the pathogen requirements in 503.32 (b) (3) are met.

Sludge undergoes anaerobic mesophilic digestion with a mean cell residence time greater than 15 days and temperature at 35 to 55 degrees Celsius.

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Sludge undergoes anaerobic, mesophilic digestion. The mass of volatile solids in the sewage sludge are reduced by greater than 38 percent.

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FOR THE CITY OF LOS ANGELES
TERMINAL ISLAND TREATMENT PLANT

BY: _____ for C. M. _____ 1/10 97

CLARENCE C. MANSELL, JR. DATE

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